UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,575	04/02/2004	Marc Lamberton	200208994-2	3808

7590 08/07/2007	EXAMINER
HEWLETT-PACKARD COMPANY	NGUYEN, KHAI N
Intellectual Property Administration	

ART UNIT	PAPER NUMBER
2609	

Intellectual Property Administration
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/817,575	LAMBERTON ET AL.
	Examiner	**Art Unit**	
	Khai N. Nguyen	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *April 02, 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28(2of 26)* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 22-25* is/are rejected.

7)☒ Claim(s) *7-21 and 26-28(2 of 26)* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All   b)☐ Some * c)☐ None of:

       1.☒ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Abstract

1.   Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Applicant 's abstract is contained form and legal phraseology often used in patent claims, such as the words "said" and "comprises the steps of" and repeated information given in the title ("processing entity such as signaling gateway"). Also, this abstract is about 170 words.

Claim Objections

2. **Claims 7-21, and 26-28 (a total of 19 claims since two claims have numbered 26)** are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the **claims 7-21, and 26-28 (a total of 19 claims since two claims have numbered 26)** have not been further treated on the merits.

3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the

original numbering of the claims to be preserved throughout the prosecution. When

claims are canceled, the remaining claims must not be renumbered. When new claims

are presented, they must be numbered consecutively beginning with the number next

following the highest numbered claims previously presented (whether entered or not).

Numbering of the claims is not in sequence; two claims have the same

number 26.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form

the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public
> use or on sale in this country, more than one year prior to the date of application for patent in the United
> States.

5. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Frey (U.S.

Patent Number 5,848,128).

Regarding claim 1 Frey teaches a method of controlling a local process that forms

part of a fast processing entity, said first processing entity maintaining a plurality of

associations with a plurality of remote processes in a second processing entity (**Fig. 1 –**

1- Signaling Link Processor (SLP) "first processing entity", and Fig. 1 – 2-3 – Call

Processors (CPs) "remote processes in a second processing entity"), said method

comprising the steps of:

- receiving a failure message from a remote process indicating a fault affecting an

  association linking the local process with that remote process (**Fig. 2 – 200, Fig.**

  5 – 300, and Fig. 6 – 400 - Receive Message, column 3 – lines 14-17, column

  4 – lines 17-21, column 4 – lines 39-41, and column 5 – lines 5-7);

- queueing data messages destined for that remote process (**Fig. 2 –202 –**

  column 3 –lines 18-40, Fig. 5 – 304 – column 4 – lines 22-28, and Fig. 6 –

  402-410 – column 4 – lines 41-47, i.e., accumulates a file of messages);

- controlling the transmission of an acknowledgement of the failure message so

  that data messages pending on the association are received at that remote

  process before the acknowledgment of the failure message (**Fig. 2 – 204 –**

  column 3 – lines 42-48, Fig. 5 – 310 – column 4 – lines 33-35, Fig. 6 – 418 –

  column 4 – lines 59-61, and column 5 – lines 13-15); and

- initiating a traffic diversion to set up an alternate path between said first

  processing entity and said second processing entity for queued data messages

  (**Fig. 2 – 208 – column 3 – lines 59-61, i.e., resend queued messages on an**

  alternate path, Fig. 6 – 410-416 – column 4 – lines 48-57).

Regarding claims 2 and 3, Frey teaches a method wherein the controlling comprises

delaying the acknowledgment of the failure message and the delay is for a

predeterminable time period (**Fig. 2 –306-310 – column 4 – lines 28-35, i.e., activated**

timer "predeterminable time" before an acknowledgment is sent, Fig. 6 – 404-408

– column 4 – lines 41-46, i.e., starts a timer "predeterminable time", and column 5

– lines 9-10, i.e., detects a timeout).

Regarding claims 4 and 5, Frey teaches a method wherein the delay is determined

by transmission and acknowledgment of a heartbeat message and wherein the

controlling comprises sending the acknowledgement of the failure message on the data

stream used for the data messages (column 5 – lines 11-17, i.e., heartbeat

messages and acknowledgement messages on the data stream used by the SLP

(Signaling Link Processor).

Regarding claim 6, Frey teaches a method as claimed in any preceding claim

comprising testing the association to determine if the association is active and, if not,

dropping messages queued for the association (column 3 – lines 18-19, and 24-27,

i.e., test for initial address message "active or not", if not then no backup

processor and no messages queued).

6.   Claims 22- 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Roque et

al. (U.S. Pub. Number 2002/0186687 A1).

Regarding claim 22, Roque et al. teach a method of recovering failure in a

distributed signaling gateway maintaining a plurality of associations between signaling

gateway processes of said distributed signaling gateway and application server processes of an application server (**Fig. 1 – 121-122 – Application Servers (ASs), Fig. 1 – 131-132 – Signaling Gateways (SGs) – paragraph [0125]**), said method comprising the steps of:

- initiating a traffic diversion in response to a failure message to set up an alternate path between said signaling gateway processes and said application server processes in ease of fault affecting an association (**Fig. 1 – 109 - Switched Circuit Network (SCN) and 129 – Signaling Link (SLS) – paragraph [0126], i.e., "SCTP-associations"**);

- initiating a switch back to include a new association linking a signaling gateway process and an application server process (**Fig. 1 – 109 - Switched Circuit Network (SCN) and 129 – Signaling Link (SLS) – paragraph [0126], i.e., "SCTP-associations"**);

- according to the change of status of any association, updating routing tables capable of routing data messages received by said signaling gateway processes to its destined application server processes (**paragraph [0204], i.e., updating signaling link (129) for routing data messages between ASP (application server processes) and SGP (signaling gateway processes)**); and

- distributing sequentially messages from said signaling gateway to said plurality of application server processes according to said routing tables (**paragraph [0285], i.e., transportation connection (SCTP-association) – sequenced delivery within streams**).

Regarding claim 23, Roque et al. teach a method wherein said step of initiating a

traffic diversion further comprising the steps of:

- starting a protection timer (**see paragraph [0061] – lines 2-5, i.e., heartbeat

  time-out**);

- queuing messages destined for the application server process of the failed

  association (**see paragraph [0252], i.e., information to be stored related to**

  SGPs/SGs "failed association");

- informing other signaling gateway processes of the fault so that other signaling

  gateway processes can avoid involving the failed association in traffic diversion

  procedure initiated by them (**see Fig. 13 - paragraph [0398], i.e., sending**

  status notification to all signaling gateway connected to it);

- controlling the transmission of an acknowledgement of the failure message so

  that data messages pending on the association are received at the application

  server process before the acknowledgement (**see Fig. 6 – paragraph [0331]-**

  [0332], i.e., acknowledgement exchange between signaling gateway (SGP)

  and application server (ASP)); and

- finding alternate path to forward subsequent stateless processing messages

  onto another application server process through another association or to

  forward subsequent stateful processing messages through an alternate signaling

  gateway process still associated with the same application server process (**see**

  Fig. 6-8 – Message Flows, and Fig. 4 – paragraph [0360])

Regarding claim 24, Roque et al. teach a method wherein said step of finding alternate path to forward subsequent stateless or stateful processing messages further comprising the steps of:

- re-computing said routing tables for said application server if the traffic is carrying stateless processing messages, sending messages according to said newly updated routing tables if there are still entry left in said routing tables and continuing to process until no entry is left in said routing tables (**see [paragraph [0404]-[0407], i.e., additional routing information element**); and

- finding an active signaling gateway process to divert the traffic for said application service process if the traffic is carrying stateful processing message, and sending said stateful processing messages onto said signaling gateway process through said alternate path (**see Fig. 8-9, and Fig. 12 -- paragraph [0383]-[0387], i.e., alternative SGP (signaling gateway process) is found and its status is "SGP_ACTIVE"**).

Regarding claim 25, Roque et al. teach a method wherein said step of initiating a switch back to include a new association further comprises the steps of:

- starting a protection timer further to the reception of an association activation (**see paragraph [0061] – lines 2-5, i.e., heartbeat time-out**);

- queuing data messages destined to the application server process of the new

    association (**see paragraph [0388], i.e., receiving application server process**

    (ASP));

- controlling the transmission of an acknowledgement of the association activation

    so that all diverted data messages have been transmitted via a diversion path

    (**Fig. 8-9 – paragraph [0391]-[0392], i.e., acknowledgement between**

    signaling gateway process and application server process);

- informing other signaling gateway processes of said new association (**see Fig.**

    13 - paragraph [0398], i.e., sending status notification to all signaling

    gateway connected to it); and

- re-computing said routing tables (**see [paragraph [0404]-[0407], i.e., additional**

    routing information element).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Turina et al. (U.S. Pub. Number 2002/0093981 A1) teach a method to improve

internetworking between application server process and signaling gateway process with

SIGTRAN protocol.

Benedyk et al. (U.S. Pub. Number 2002/0105969 A1) teach a method and

system for routing messages in a core network components using SS7, CSTP, IP,

M3UA.

Martinez (U.S. patent Number 6,137,806) teaches an intelligent network employs SS7.

Reiman et al. (U.S. Patent Number 5,966,431) teach the conversion from one signaling protocol to another signaling protocol with SS7 gateway.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai N. Nguyen whose telephone number is (571) 270-3141. The examiner can normally be reached on Monday - Thursday 6:30AM - 5:00PM.
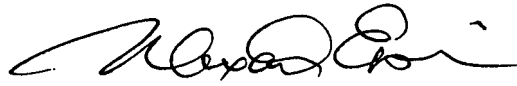
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on (571) 272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alexander Eisen
SPE
Art Unit 2609

KNN
08/01/2007